



March 4, 2008

2007-358-E

Mr. Charles L.A. Terreni  
Chief Clerk/Administrator  
South Carolina Public Service Commission  
101 Executive Center Drive  
Columbia, SC 29210

Dear Mr. Terreni:

The Alliance to Save Energy, the American Council for an Energy-Efficient Economy, the Energy Future Coalition, and Duke Energy recently announced an agreement regarding Duke Energy's proposed "Save A Watt" energy efficiency plan. Our support for the Save A Watt initiative is premised on five key commitments by Duke Energy that we consider essential to the success of their program and the advancement of energy efficiency in the region. We write to urge you to include the first four of the elements of the agreement in any ruling on the Save A Watt proceeding.

Specifically, we ask that the Save A Watt regulatory proceeding require Duke Energy to:

- 1) Identify and pursue every cost-effective energy efficiency program (reducing both kWh and peak kW). And further, neither the Commission nor Duke Energy should impose any predetermined cap on the company's total energy efficiency investment.
- 2) Achieve an overall energy efficiency target for Save A Watt in ongoing annual electricity savings of at least 1 percent of its 2009 retail electricity sales by 2015 (i.e., 1% savings in 2015, an additional 1% to total 2% in 2016, etc.), with savings each year over the 2009-2014 period ramping up to this 1% per year target. The rule should allow flexibility should the Commission and Duke Energy agree that there are not enough *cost-effective programs* to support the energy efficiency target so that the target is reduced to the maximum achievable with cost-effective programs. ("Cost effective programs" should be defined as those where the system avoided-cost savings are greater than the total costs of the program.)
- 3) Use accepted best practices in program evaluation, measurement, and verification (EM&V) and allocate approximately 5% of energy efficiency program expenditures to EM&V.
- 4) Make the program evaluation results available to all interested parties, establish a broad-based peer review and advisory process, and use evaluation results as feedback to continuously improve Duke Energy's programs.

Under the terms of our agreement (see attachment), Duke Energy is prepared for your commission to include these four provisions in its regulatory decision.

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SAVE ENERGY  
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Duke Energy's Save A Watt initiative is an innovative and promising new direction for the company and its customers. We support the overall direction Duke Energy is taking to significantly expand, measure, verify and continuously improve its energy efficiency programs,<sup>1</sup> and welcome the company's commitment to a specific – and more aggressive than originally proposed – energy savings target.

As detailed in the attached agreement, we defer to you and your colleagues, as well as the regulators in the other states where Duke Energy has proposed the Save A Watt initiative, to **determine an appropriate and reasonable level of compensation** based upon the interests of Duke, ratepayers, and other interested parties. We take no position on the percentage of avoided cost that is appropriate and reasonable for Duke to receive, including whether the percentage should be fixed or variable. We believe Save a Watt represents a workable approach, provided levels of compensation are “appropriate and reasonable.”

As part of our agreement, Duke and our three organizations also agreed to continue exploring with state regulators and advocates regulatory approaches that have the objective of eliminating any linkage between the utility's financial health and its customers' electricity consumption. Our organizations support decoupling electricity sales from the profits earned by utilities, and we encourage your commission to be an active participant in these discussions.

We look forward to working with you and other parties engaged in this important regulatory proceeding to advance energy efficiency. We urge you to move swiftly. Energy efficiency is the cheapest, cleanest, and fastest way to deliver power to residential, commercial, and industrial customers.

Sincerely yours,

Kateri Callahan  
President  
Alliance to Save Energy

Steven Nadel  
Executive Director  
American Council for an  
Energy-Efficient Economy

Reid Detchon  
Executive Director  
Energy Future  
Coalition

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<sup>1</sup> Energy efficiency as it appears here includes both conservation and demand side management programs.



ALLIANCE TO  
SAVE ENERGY  
*Creating an Energy-Efficient World*



energy future  
COALITION



February 4, 2008

**Duke Energy's Save A Watt Initiative  
Joint Statement by the Alliance to Save Energy,  
American Council for an Energy-Efficient Economy,  
and the Energy Future Coalition**

**Summary**

The Alliance to Save Energy (Alliance), American Council for an Energy-Efficient Economy (ACEEE) and the Energy Future Coalition (EFC) endorse Duke Energy's save a watt initiative as an innovative and promising new direction for the company and its customers. We support the overall direction Duke Energy is taking to significantly expand its energy efficiency programs,<sup>1</sup> and welcome the company's commitment through its save a watt initiative to a specific energy savings target and to a process of measurement, verification, and continuous program improvement in order to achieve that target.

Our support for the save a watt initiative is premised on five key commitments by Duke Energy that we consider essential to the success of their programs and the advancement of energy efficiency in the region. Upon a state's regulatory approval of Duke Energy's save a watt initiative, Duke Energy has committed to the following:

- 1) Identify and pursue in that state every cost-effective energy efficiency program (both kWh and peak kW). Duke Energy will not impose any pre-determined cap on the company's total energy efficiency investment.
- 2) An overall energy efficiency target for save a watt to achieve on-going annual electricity savings of at least 1 percent of its 2009 retail electricity sales by 2015 (i.e., 1% savings in 2015, an additional 1% to total 2% in 2016, etc.), with savings each year over the 2009-2014 period ramping up to this 1% per year target. The ability to ramp up to this goal will give Duke Energy time to develop and expand its energy efficiency program offerings. The energy efficiency target is not applicable, however, if there are not enough cost-effective programs to support the energy efficiency target. To be considered cost-effective, the system avoided costs saved by the program must be greater than the total costs of the program.
- 3) The use of accepted best practices in program evaluation, measurement, and verification (EM&V). Duke is also committing to allocate approximately 5% of energy efficiency program expenditures to EM&V.
- 4) Make the evaluation results available to all interested parties, to establish a broad-based peer review and advisory process, and to use evaluation results as feedback to continuously improve Duke Energy's programs.
- 5) Continue exploring with state regulators and advocates regulatory approaches that have the objective of eliminating any linkage between the utility's financial health and its customers' electricity consumption.

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<sup>1</sup> Energy efficiency as it appears here includes both conservation and demand side management programs.

Duke is also prepared for a state, if it chooses, to include these first four provisions in a regulatory decision.

The Alliance, ACEEE, and EFC agree to support the save a watt initiative and Duke Energy's efforts to expand their energy efficiency programs, including these five principles, while remaining neutral on the specific level of compensation Duke receives for successfully implementing the program. Support may be shown in the following ways, but is not limited to:

- Press Releases
- Public Witness statements at state hearings
- Joint statements, lending quotes, etc., to media articles

While supporting the save a watt initiative and also supporting reasonable incentives for utilities to pursue energy efficiency, the Alliance, ACEEE, and the Energy Future Coalition will defer to regulators in each state to determine an appropriate and reasonable level of compensation (for example, a percent of avoided cost that Duke may receive under the save a watt initiative).

We discuss each of these points in more detail, below.

Based on these principles, as outlined in Duke Energy's save a watt proposals and further defined in our direct discussions with Duke Energy's senior management, the Alliance, ACEEE, and EFC endorse the save a watt initiative as an innovative and promising new direction for the company and its customers. We have agreed to continue working with Duke Energy, its customers, and other interested parties to monitor program performance and results, and to advise Duke Energy as they broaden and refine their initial program offerings. As part of the annual review and update of its save a watt initiatives, Duke also agrees to consider whether it is appropriate to strengthen the save a watt goals or timeline, based on two years of evaluation results from the initial energy efficiency programs.

### **Energy Savings Goals**

In its early save a watt filings (South Carolina for example), Duke Energy has proposed annual kWh savings of about 0.3% of sales (totaling about 1.6% after 5 years). We did not consider this a robust goal for a "leadership" effort, compared with:

- Duke's anticipated load growth of ~1.6%/year
- A cost-effective energy savings potential of about 20%, based on today's technology and Duke's cost-effectiveness threshold of ~5-6 ¢/kWh, according to the recent market potentials study commissioned by Duke.<sup>2</sup>
- A much more aggressive goal that Duke had proposed for peak load reduction, which would offset nearly all the expected peak load growth (28%) over the next 15 years.

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<sup>2</sup> Forefront Economics et al. 2007. "Duke Energy Carolinas DSM Action Plan" [No. Carolina and So. Carolina]. Since this study was completed after the deadlines for filing in NC and SC; Duke pointed out that they are currently developing new DSM programs based on additional recommendations in these two reports.

Duke's revised energy savings goal for its save a watt initiative now envisions ongoing kWh savings of at least 1%/year (based on 2009 retail sales), beginning in 2015 and subject to cost-effectiveness criteria.<sup>3</sup> Once Duke Energy reaches this level of annual savings, cumulating each year after 2015, it will represent more than half of projected energy demand growth.

Once the save a watt initiative is approved, Duke Energy believes it can meet this new aggressive target by increasing the emphasis on efficiency in new residential and commercial buildings, on full deployment of advanced power management technologies, and on low-interest loans for efficiency measures, to be repaid on the utility bill, under the proposed "Efficiency Savings Plan" (ESP). The parties agreed that no changes need to be made to Duke Energy's applications (that are in the middle of regulatory review). The annual proceeding outlined in Duke Energy's save a watt initiative facilitates a staged approach to program expansion and goals which is reasonable. This process enables Duke Energy to continue to develop and pilot new ideas with input from the Advisory Committee (see below). This is all part of a process for designing and implementing programs to achieve all cost-effective energy efficiency resources through save a watt filings, and to periodically re-assess these opportunities as technology and energy prices change (including carbon costs).

### **Additional Energy Efficiency and Demand Response Programs**

We have had initial discussions with program management at Duke Energy about opportunities to refine, expand, and broaden their existing suite of programs. Examples of these opportunities include the following:<sup>4</sup>

- Residential new construction
  - Active targets for market penetration and active recruitment of builders – especially as new home construction recovers from the current slump.
  - Collaboration with local housing authorities and non-profit community organizations such as Habitat for Humanity.
  - Builder design assistance combined with whole-building and/or component incentives.
  - Work with local builders to develop ENERGY STAR "builder option packages" tailored to Duke Energy's service area (including emphasis on low peak demand design features to allow down-sizing of central air conditioners and thus "permanent peak savings" of 1 kW/home).
  - Emphasize early installation of advanced meters in Energy Star Plus homes.
  - Link low-peak-demand Energy Star Plus homes to incentive tariffs (current or new proposals).

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<sup>3</sup> While Duke's detailed economic analysis is based on hourly modeling of system avoided costs, they indicate that currently the approximate threshold for cost-effectiveness is ~5-6 ¢/kWh.

<sup>4</sup> There are numerous other examples in Duke's recent market potential study, and many more in the general literature on DSM programs, including ACEEE's 2008 "Review of Exemplary Energy Efficiency Programs."

- Broaden program participation beyond all-electric homes and seek opportunities to collaborate with gas utilities on multi-fuel gas/electric DSM programs (also for retrofits – see below).
- Design new-home programs to take full advantage of state and federal tax incentives (if extended by Congress).
- Utility participation in training and other capacity-building for duct and blower door testing contractors.
- Non-residential new construction
  - Aggressive recruitment of large and small commercial construction projects.
  - Set target levels for program penetration and building performance (e.g., 30% better than local codes or energy cost budgets 15-30% below 2007 ASHRAE 90.1-2007.)
  - Technical and financial support for “integrated design” beginning at early stages of project development (to include siting/orientation; reduced cooling/heating loads from envelope, glazing, ventilation, lighting and equipment; and HVAC system down-sizing).
  - Include low-peak power designs and performance targets and/or time-dependent valuation of kWh savings (important to electric utilities but generally overlooked in model codes, with the exception of CA Title 24).
  - Strong emphasis on start-up commissioning of HVAC and controls; operator training; and long-term building performance assurance through monitoring, diagnostics, and benchmarking.
  - Incentives for efficiency upgrades linked to system and whole-building performance – not limited to lighting/HVAC (custom incentives for high-efficiency process equipment in commercial kitchens, laundries, data centers, medical and lab equipment, etc.).
  - As with new homes, leverage utility programs using state and federal tax incentives (if extended); target new non-residential buildings for early installations of advanced metering and submetering.
- Retrofit, remodeling, and equipment replacement in existing homes
  - Duke’s DSM programs should reflect a comprehensive approach to efficiency in existing homes: envelope insulation and sealing, equipment and window upgrades, and improvements in HVAC and WH distribution systems, perhaps along the lines of EPA’s Home Performance with Energy Star Initiative. On-bill financing is also very useful, as proposed in the Efficiency Savings Plan pilot/research project.
  - Home renovation, remodeling, and other routine projects such as re-roofing, window replacements, HVAC and appliance replacements, etc., offer attractive opportunities for efficiency upgrades since the homeowner is already paying the basic equipment and construction costs.
  - Every HVAC, WH, lighting fixture, and appliance equipment replacement should be an opportunity for an efficiency upgrade. Duke Energy should establish aggressive market-share targets to affect these consumer decisions

and work “upstream” with distributors, retailers, and installers to achieve the goals.

- Retirement-without-replacement of older equipment (especially second refrigerators, freezers, and room air conditioners) should be encouraged with information campaigns and \$ “bounties.” These efforts should include but not be limited to the low-income and multifamily sectors.
  - Duke should also partner with the gas utilities serving its customers, to cooperate on (and potentially co-fund) measures such as envelope insulation or duct sealing that save both gas in the winter and electricity in the summer. This is especially important where a measure may be very cost-effective to the customer based on combined heating and cooling savings, but not as cost-effective when either fuel is considered by itself.
- Integrated energy management for existing commercial/industrial facilities
- Comprehensive incentive and technical assistance efforts targeted to non-residential (commercial, industrial) customers should build on standard energy audits to include follow-up marketing of DSM rebates, assistance in financing retrofits or equipment replacements (on-bill or via ESCOs or commercial lenders), strong support for retro-commissioning and performance monitoring, and (as with new construction) links to federal and state tax incentives, advanced metering, and incentive (demand-response) tariffs.
  - Program designs may need to be tailored to effectively address small and medium enterprises (SMEs) as well as larger firms, national accounts, government/institutional customers, and retail/service franchises.
- Beyond “hardware” measures
- In general, Duke’s DSM strategy should not be limited to equipment, building envelope, and other “hardware” measures – but also include effective actions to condition, lead, and transform the energy efficiency market.
  - Some non-hardware measures may be difficult to quantify. Others, such as integrated building design, startup- and retro-commissioning, and improved operations and maintenance (O&M) practices are well-documented as cost-effective measures with significant energy savings.<sup>5</sup>
  - Similar to its current collaborations with manufacturers and big-box retailers to promote CFLs, Duke should seek other available opportunities to partner with the upstream supply chain and strengthen capacities of manufacturers, distributors, retailers, designers, contractors, and installers/operators (etc.) to deliver efficient products and services to Duke customers.
  - Customer education and feedback: While not always easy to associate with specific savings in the near term, sustained efforts to educate today’s consumers about energy efficiency (and tomorrow’s consumers through K-12 education curricula) are essential to long-term DSM success.

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<sup>5</sup> For non-residential buildings, Duke’s market potentials study identifies integrated design and commissioning as the by far the two largest sources of cost-effective savings.

- In addition to its advanced metering pilots, Duke should consider other approaches to provide feedback on energy use to residential and non-residential customers, ranging from customized comparison data on monthly utility bills to real-time feedback displays of energy use and demand.
  - One of the most cost-effective means for Duke to reduce kWh and peak kW growth is for the utility to actively support new state-level efficiency standards and building energy codes, including: a) partnering with local and state jurisdictions on code compliance and on-site testing and verification (linked to other new construction incentive and technical assistance programs), and b) supporting the analysis of new or revised building energy codes and appliance standards needed to justify state adoption (as PG&E has done in CA, for example).
- Utility side energy efficiency
- Efficiency investments should not be limited to the customer side of the meter. A corporate commitment to specific savings targets for energy and peak demand in its own facilities will be an important way for Duke to “lead by example.” Duke should help stimulate both awareness and demand for efficient products and services in the region by committing to upgrade the efficiency of its transformers and other system equipment, as well as its office buildings and other facilities throughout its service territories.
- Technology and program innovation
- Since Duke is proposing the save a watt initiative as an initiative with an extended time horizon, it is important to keep current with new and emerging demand-side technologies and to engage in additional field testing and demonstration in its service territories – in addition to the initial research pilot project underway on advanced metering and load control.
  - Ideally, these activities should be coordinated across Duke Energy’s state service territories, in support of future program development. Duke Energy’s own activities should also be leveraged through collaboration with universities and research organizations in the region, as well as national research organizations like EPRI and ASERTTI (<http://www.asertti.org/>).
  - To encourage consideration of new and innovative program ideas, particularly for large customers and specialized market segments (e.g., data centers), the save a watt initiative should include provisions for a “competitive procurement of kWh savings” (somewhat similar to the proposed tariff offerings for peak kW reductions). Utilities in Texas, the Pacific Northwest, and elsewhere have had considerable experience and success with such competitive solicitations of saved kWh. This offer to competitively procure saved energy could either be continuously available or periodically re-issued as a solicitation. Some measures offered implemented in response to the solicitation may suggest opportunities for future DSM programs offered to all customers under the save a watt initiative.

## **Program Evaluation, Measurement & Verification**



Duke Energy intends to follow the California Standard Practices for DSM evaluation, measurement and verification (EM&V), to contract with third-party evaluators, and to allocate about 5% of save a watt initiative costs for process and impact evaluation. Duke Energy has also agreed with our recommendation that program evaluation results, after appropriate opportunity for review by Duke Energy program managers, should be made available to the public (as well as discussed with the Program Review Committee – see below). One example of this practice is the California Measurement Advisory Council (CalMAC) website used by California utilities to disseminate and archive evaluation results and related information (<http://www.calmac.org/>).

Together, these actions represent a commitment by Duke Energy to pursue good-practice in DSM measurement and evaluation.

### **Advisory Committee – Program Review and Continuous Improvement**

We believe that Duke’s energy efficiency programs will benefit substantially from a sustained (rather than periodic) program review process, involving a broadly based, independent advisory committee composed of energy efficiency experts and interested stakeholders in each of Duke Energy’s service territories.

Each advisory committee should have clearly-defined roles and responsibilities set forth in a written charter. Efforts should be made to assure a reasonably stable membership from year-to-year, with staff support for the advisory committee provided by Duke Energy to supplement the effort, as well as expertise available on a volunteer basis from committee members. Duke Energy may also provide a reasonable amount of funding for travel to meetings (up to 3 per year) for those organizations with valuable perspectives and expertise but limited resources of their own.

Since energy efficiency programs are likely to be similar but not identical across the five states served by Duke Energy, we recommend some means of assuring regular exchanges and cross-fertilization among the review committees in each state. One option might be a standing agreement that the state-level advisory groups will meet jointly at least once a year. In some cases, program evaluations and baseline studies might be designed on a multi-state level, to gain economies of scale and take full advantage of comparing different program designs.

The Alliance, ACEEE, and EFC would participate in the Program Advisory Committee process, most likely at the level of the multi-state meetings.

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#### **FOR MORE INFORMATION:**

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